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box 20 interferes with the front surface of the toner cartridge 16 to prevent the toner cartridge 16 from being attached, or the waste toner box can not oscillate since the toner cartridge does not have any protruding portions which are engageable with the protruding portion of the waste toner box 20. Thus, the non-normal toner cartridge 16 can be found.

The cleaning part 301 cleans the surface of the discriminating label to remove dust, such as toner and paper powder, which adheres thereto, before the reading operation of the optical sensor 40.

When the optical sensor 40 reads the fact that the information recorded on the discriminating label is coincident with the condition of the specification, the copying machine 1 determines that the attached toner cartridge 16 is a certified product, and ends the above described discriminating operation.

Then, the toner supply device 7 carries out an operation 25 of agitating the toner in the toner cartridge 16 before the toner is supplied to the developing device 11. That is, the rotating unit 19 rotates the toner cartridge 16 about a position, at which the discriminating label is applied, alternately clockwise A and counterclockwise B by predetermined angles, respectively.

Since such an oscillating operation can break lumps of the toner if the toner has gathered in the toner cartridge 16 in a preservation period and/or in a state of preservation, the amount of the toner subsequently supplied can be stabilized. Thus, it is not required to carry out the agitating operation for the toner cartridge 16, which has been conventionally carried out by the user before attaching the toner cartridge 16, so that it is possible to relieve the user's work load.

Thereafter, the above described toner supply operation is carried out.

While the preferred embodiments of the present invention have been described above, the present invention should not be limited thereto, but the invention can be embodied in various ways without departing from the principle of the invention.

For example, the oscillating mechanism should not be limited to the above described mechanism, and may be a mechanism for making vibrations and/or impacts to such an extent that the internal waste toner can be broken at a desired point.

In addition, at least one of the protruding portions of the waste toner box and toner cartridge can be formed to protrude when necessary. In this case, it is possible to avoid the oscillation of the waste toner box when the toner is supplied.

What is claimed is:

1. An image forming system comprising:

- a developing device for causing a toner to adhere to a latent image, which is formed on a photosensitive material drum, to form a visible image;
  - a toner supply device for supplying a toner, which is housed in a toner container, to said developing device;
  - a toner removing device for removing a remaining toner after said visible image on said photosensitive material drum is transferred to a transfer paper;
  - a waste toner container for accumulating therein a waste toner removed by said toner removing device; and
  - an oscillating mechanism for oscillating said waste toner container;
- wherein said oscillating mechanism comprises:
- a rail member for allowing said waste toner container to slide;

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- a first protruding portion provided on the top surface of said waste toner container at a position, at which said first protruding portion faces said toner container;
- a second protruding portion provided on said toner container at a position, at which said second protruding portion faces said first protruding portion; and
- a biasing member for returning said waste toner container, which has been oscillated by the engagement of said first protruding portion with said second protruding portion by the rotation of said toner container, to an initial position.

2. An image forming system as set forth in claim 1, which further comprises an oscillation control unit for causing the toner to be supplied by a forward rotation of said toner container when the toner is insufficient, except for when an image is formed, and for sliding said waste toner container.

3. An image forming system as set forth in claim 1, which further comprises an oscillation control unit for sliding said waste toner container without supplying the toner by a reverse rotation of said toner container when the toner is insufficient and when oscillation is required, except for when an image is formed.

4. An image forming system as set forth in claim 3, wherein the need for oscillation is determined by whether a value counted by a counter for counting the number of sheets, on which images have been formed, reaches a predetermined value.

5. An image forming system comprising:

- a developing device for causing a toner to adhere to a latent image, which is formed on a photosensitive material drum, to form a visible image;
  - a toner supply device for supplying a toner, which is housed in a toner container, to said developing device;
  - a toner removing device for removing a remaining toner after said visible image on said photosensitive material drum is transferred to a transfer paper;
  - a waste toner container for accumulating therein a waste toner removed by said toner removing device; and
  - an oscillating mechanism for oscillating said waste toner container;
- wherein said waste toner container has an interfering member for inhibiting said toner container from being attached and detached when said waste toner container is attached at a predetermined position.

6. An image forming system as set forth in claim 5, wherein said interfering member is positioned on a line extending from the axis of said toner container, and said interfering member is a member for inhibiting the movement of said toner container in a detached direction after said toner container is attached at a predetermined position.

7. A waste toner container for use in an image forming system comprising: a developing device for causing a toner to adhere to a latent image, which is formed on a photosensitive material drum, to form a visible image; a toner supply device for supplying a toner, which is housed in a toner container, to said developing device; and a toner removing device for removing a remaining toner after said visible image on said photosensitive material drum is transferred to a transfer paper, said waste toner container accumulating therein a waste toner removed by said toner removing device, and said waste toner container having an oscillating mechanism for oscillating said waste toner container to break the accumulation of a waste toner therein,

wherein said oscillating mechanism comprises:

- a rail member for allowing said waste toner container to slide;

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a protruding portion provided on the top surface of said waste toner container at a position, at which said protruding portion faces a protruding portion formed on the peripheral surface of an end portion of said toner container; and

a biasing member for returning said waste toner container, which has been oscillated by the engagement of said protruding portion of said toner container with said protruding portion of said waste toner container by the rotation of said toner container, to an initial position.

8. A waste toner container for use in an image forming system comprising: a developing device for causing a toner to adhere to a latent image, which is formed on a photosensitive material drum, to form a visible image; a toner supply device for supplying a toner, which is housed in a toner container, to said developing device; and a toner removing device for removing a remaining toner after said visible image on said photosensitive material drum is transferred to a transfer paper, said waste toner container accumulating therein a waste toner removed by said toner removing device, and said waste toner container having an oscillating mechanism for oscillating said waste toner container to break the accumulation of a waste toner therein,

which further comprises an interfering member for inhibiting said toner container from being attached and detached when said waste toner container is attached at a predetermined position.

9. A waste toner container as set forth in claim 8, wherein said interfering member is positioned on a line extending from the axis of said toner container, and said interfering member is a member for inhibiting the movement of said

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toner container in a detached direction after said toner container is attached at a predetermined position.

10. A toner container for use in an image forming system comprising: a developing device for causing a toner to adhere to a latent image, which is formed on a photosensitive material drum, to form a visible image; a toner supply device for supplying the toner to said developing device; a toner removing device for removing a remaining toner after said visible image on said photosensitive material drum is transferred to a transfer paper; and a waste toner container for accumulating therein a waste toner removed by said toner removing device, said waste toner container being oscillatable and biased so as to return to an initial position, said toner container housing therein the toner supplied to said toner supply device, said toner container having a protruding portion which is engageable with a protruding portion provided on said waste toner container when said toner container is attached at a predetermined position, and said toner container rotating to slide said waste toner container.

11. A toner container as set forth in claim 10, which causes the toner to be supplied by a forward rotation of said toner container when the toner is insufficient, except for when an image is formed, and for sliding said waste toner container.

12. A toner container as set forth in claim 10, which slides said waste toner container without supplying the toner by a reverse rotation of said toner container when the toner is insufficient and when oscillation is required, except for when an image is formed.

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13. A toner bottle for use with an image forming apparatus to supply toner to the image forming apparatus, comprising:

an elongated bottle body that houses toner, the bottle body having an edge portion and an end portion, the end portion being positioned opposite to the edge portion in an axial direction along the bottle body, and a groove extending around an outer circumference surface of the bottle body and extending between the edge portion and the end portion;

a toner discharge port formed adjacent the edge portion, the toner being discharged from the toner discharge port when the toner moves toward the edge portion during toner bottle rotation; and

a protrusion positioned on the outer circumferential surface of the toner bottle adjacent the end portion of the bottle,

wherein the toner discharge port faces outward from the outer circumferential surface of the bottle body and the protrusion extends outward from the outer circumferential surface of the bottle body.

14. A toner bottle according to claim 13, wherein the toner bottle is configured to be sensed by a sensor provided in the image forming apparatus to discriminate the type of toner bottle.

15. A toner bottle according to claim 13, wherein the edge portion of the bottle body is configured to engage with a bottle rotating unit in the image forming apparatus.

16. A toner bottle according to claim 14, wherein the groove is a spiral groove that extends continuously without breaks from adjacent the end portion to adjacent the edge portion.

17. A toner bottle according to claim 16, further comprising a ring-like shutter positioned at the edge portion of the bottle body.

18. An image forming apparatus in combination with a toner bottle according to claim 13.

19. A toner container for use in an image forming system, the image forming system including a toner removing device for removing remaining toner after a visible image is transferred from a photosensitive material drum to a transfer paper, and a waste toner container for accumulating therein a waste toner removed by said toner removing device, said waste toner container being oscillatable and biased so as to return to an initial position, the toner container comprising:

a housing for housing toner; and

a protruding portion that is engageable with a protruding portion provided on said waste toner container when said toner container is attached at a predetermined position, and said toner container rotating to slide said waste toner container.